Email id : cekoandm@bwssb.gov.in

ಬೆಂಗಳೂರು ನೀರು ಸರಬರಾಜು ಮತ್ತು ಒಳಚರಂಡಿ ಮಂಡಳಿ

BANGALORE WATER SUPPLY AND SEWERAGE BOARD

Office of the Chief Engineer (K-O&M), 6th Floor, Cauvery Bhavan, K.G.Road, Blore-560 009.

BWSSB/CE(K-O&M)TE/TA01/98/2021/ 518 **/2023-24.** **Date:** 05/8/2023

Addendum No.1

(Through Karnataka public procurement Portal)

https://kppp.karnataka.gov.in

Name of the Work: Work of SCADA Technology for Integrated Performance Management Solution of 300 MLD Cauvery Water Supply Scheme Stage 4, Phase I at T K Halli, Harohalli and Tataguni for Improving Operating Efficiency and Sustaining Performance, Leveraging Technologies and Best Practice Leading to Improved Service Delivery of Pumping Station (2nd call)

Repliers to Pre-Bid Quarries, Pre-Bid Meeting Dt:31/07/2023

IFT No: BWSSB/CE(K-O&M)TE/TA-01/98/2021/370/2023-24 Dated:14.07.2023

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
1	Instruction to Tenderer - Qualification of the Tenderer: a. Clause number 3.0 b. Sub-Clause number 3.2 d) c. Page number 8	As stated in the bid document: The bidder must possess technology that is currently utilized by any Government Organization / PSU / Corporation or is a patented technology duly approved in startup India	Kindly Clarify, Does this mean that " The bidder should offer Technology which is in use in any of the Government Organization/PSU/Corporation **or** should be a patented Technology and duly approved in startup India"	As per tender conditions

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
2	Bid Documents	Bid documents having 1. Part 1_General Instrumentation Control and Automation of IPMS. 2. Part 1_General Instrumentation. 3. Part 2_Particular Instrumentation Control and Automation Requirement of IPMS. 4. Part 2_Particular Instrumentation.	Please clarify, whether bidder can refer Sl.No.1 and Sl.No.3 for bidding process. Reason: Sl.No.1 and Sl.No.3, mentions additional clauses compare to Sl.No.2 and 4.	Bidder should consider the stipulations mentioned in the following document Part 1_General Instrumentation Control and Automation of IPMS Part 2_Particular Instrumentation Control and Automation Requirement of IPMS.
3	Instruction to Tenderer - Qualification of the Tenderer: a. Clause number 3.3 b. Sub-Clause a) c. Page number 9	The Tenderer must "Availability by owning 50% of the required / specified key and critical equipment for this work and remaining 50% can be deployed on lease / hire basis for all works provided, the relevant documents (commitment agreements etc.,) for availability for this work shall be furnished. The proof of owning / leasing / hiring of equipment shall be furnished by the Tenderer. The Tenderer should own, or have assured access (through hire, lease, purchase agreement, availability of manufacturing equipment, or other means) to the required equipment /machines to complete the project, and must demonstrate that based on known commitments, they will be available for use in the proposed contract	We respectfully request a modification or addendum as: "The Tenderer is required to possess 50% of the instrumentation testing equipment through ownership, and the remaining 50% can be acquired on a lease/hire basis or directly from the manufacturer's facility. The Tenderer must submit relevant documents, such as commitment agreements, to demonstrate the availability of this equipment. Additionally, proof of ownership, leasing, or hiring of equipment should be provided by the Tenderer." **Reason:** The current conditions pertain to civil works, and for present instrumentation work, only testing equipment is required	Tender condition prevails

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
4	Contract Data - Payment Terms Page number 45	the payment terms are currently specified as follows: 50% upon delivery of material/equipment 30% after installation 20% after commissioning	We kindly request an amendment to the clause, which is also being used in various contracts within BWSSB: a. 80% upon delivery of material/equipment. b. 10% after installation. c. 10% after commissioning **Reason**:1. The current payment terms mentioned in the tender are not feasible. 2.The proposed payment terms are in line with those utilized in various other BWSSB contracts. 3.Instrumentation manufacturers often necessitate 100% advance payment upon order placement and deliver the equipment within a timeframe of 90-120 days after the full payment is received	Payment terms are modified as following a. 70% upon delivery of material/equipment. b. 20% after installation. c. 10% after commissioning
5	**Volume -1** General Requirements SCADA 300 MLDVolume -2 Part 1-General Instrumentation Control and Automation of IPMSVolume -2 Part 2-Particular Instrumentation Control and Automation of IPMS	References of PLC based SCADA/SCADA System/SCADA screem dumps/PLC/PLC programming/Set point schedules/RTU and related items/phrases	A per our understanding from the following clauses bidder can propose either SCADA or IoT-based IPMS technology subject to compliance as per Clause no. 2.13.2/2.13.3 of Functional Compliance /Non Functional Requirements .1.Clause no. 2.3.1 on page 2-11: Minimum Scope of ICA work for the three CWPS (Note).2.Clause no. 2.14 on page no. 2-48: Technical specification of IPMS.Kindly clarify	As per tender conditions

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
5	**Battery and UPS** Page no.11 clause no.2.3.1 l) Page no.14, clause no.2.6 Page no.115, clause no.2.33.1	**Particular Instrumentation** Scope mentions that the "Design, supply, install, test and commission uninterrupted power supply system with 120 mins backup on full load, to supply the entire IPMS and field instrumentation" Design & constructions mentions that the "provide sufficient power to maintain the Instrumentation and Pumping Stations control system (inclusive of all field instrumentation, IPMS, FOC & GPRS communication equipment, all vendor package instrumentation) systems functioning for a period of not less than 120 minutes on full load" Also **Technical specifications** at clause no.2.33 page no.2-116, mentions UPS specification specifies "415V +10% -15 % A.C. Three phase 4 wires with Solidly earthed Neutral".	We kindly request you to please amend to 3 KVA, single phase, not less than 30 minutes on full load. And also capacity of the battery should match UPS capacity and backup time (need not to be restricted to 80AH batteries only) **Reason**: Our proposed system will be having maximum full load power requirement of 1840 Watts. In addition to that, the 16", 55' display and edge hardware will consume approximately 350 Watts. Therefore, the total maximum load is estimated to be around 2190 Watts at full load. To ensure uninterrupted power supply, we are providing a UPS with a capacity of 3KW at a power factor of 0.8, which will be more than sufficient to handle the full load.: Moreover, the our proposed system will supply batteries that can provide a backup power supply of at least 30 minutes at full load, taking into account sufficient error margins to account for any unexpected fluctuations or power variations. This backup power capability ensures that the system remains operational during power outages or	Tender condition prevails

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
	Technical Schedule TK Halli Harohalli,, Tataguni, Page no.TS I,II,II-6, sl.no.1.1.27 Page no.TS I,II,III-7, sl.no.1.1.28	**Technical Schedule - UPS** supply of 230 V, 10 KVA capacity with battery of 80 AH, which is contradictory. **Technical Schedule - Battery Bank :** 12V DC, AH batteries in poly propylene container for U.P.S. Sealed maintenance free batteries. (80 AH Capacity)	disruptions, allowing for continuous monitoring and performance of critical functions even in adverse conditions.	

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
6	Page no.2-83, clause 2-24,Page no.2-83, clause 2-25,	Approved vendor/manufacturerNote -1, In order to achieve standardization for appearance, operation, maintenance, spare parts and manufacturer's service, like items of equipment provided hereunder shall preferably be the end products of one (1) manufacturer	Various components, including sensors, hardware, cables, software, and other items, are essential elements of the solution and these components are sourced from various vendor facilities across the globe to create an integrated system. Please confirm that bidder should offer the various components of right specification and from the reputed manufacturer. **Reason:** The solution encompasses a range of essential instruments, including sensors, transmitters, transducers, digital meters, TV monitors, software, and other related items. It is crucial to understand that these components are not manufactured by a single company, but are sourced from different manufacturers and suppliers.Since each instrument is produced by different manufacturers, it is vital to ensure that they are compatible and work seamlessly together. Integration of these diverse components is a crucial aspect of the solution to create a robust and efficient system that meets all the specified technical requirements and delivers optimal performance. Collaborating with various manufacturers allows for leveraging the expertise and innovations offered by different companies, ultimately enhancing the overall functionality and reliability of the IPMS.	Tender condition prevails

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
7	Page No.2-123, Clause no.2.36 a)	Inspection & Testing requirements Each item of Pumping Stations and its installation shall be subject to testing at the place of manufacture.	Based on the conditions outlined in "Factory Acceptance Test" (FAT) at page no.2-128 and clause no.2.14 i) at page no.2-50, it is our understanding that the inspection of all items listed in the technical schedules will be conducted at the Bidder's manufacturing/testing/lab facility. We kindly request confirmation and clarification on this matter **Reason:** In terms of clause no. 2.14 i) at page no 2-50 of Part-2 section, the bidder has to provide end-to-end product and solution viz. Sensors, hardware, cables, hybrid cloud, IPMS software, and product installation and training for the entire contract period. "Factory Acceptance Test" (FAT) specifies that The Contractor shall conduct a full programme of tests of the pump performance system including Cloud based intelligent Platform at the manufacturer testing facility in the presence of the Engineer to verify that all features of the system have been provided, are operating correctly and are in full compliance with the Specification. Unless otherwise specified or agreed by the Engineer, the system shall be assembled and tested together as an integrated system, including all station equipment, all operators' consoles, included as specified in this Specification to demonstrate the complete functional testing of the system.. The sensors used in this project are procured from reputable global companies, ensuring they meet all the technical specifications outlined in the tender. The integration of these sensors, along with the necessary hardware and software, will take place at the bidder's testing facility, following the technical guidelines provided in the tender.	For the Supply of item / material from outside India , it shall be inspected at **Manufacturer's place if the quoted price is Rs.1 Crores and above.** And below 1 Crores it shall be a virtual inspection for the said case.

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
8	Harohalli Page no. TS II-2, Sl.no.1.1.18 Tataguni Page no. TS II-2, Sl.no.1.1.18	Technical Schedule Pressure Switch on transmission mains (1500mm)	In the Technical Schedule of TK Halli on page no. TS-I-1, under Sr. no. 1.1.8, the mentioned item is "Pressure Transmitter." However, we believe there might be a typographical error in the technical schedules of both Harohalli and Tataguni, where it is stated as "Pressure Switch" instead of "Pressure Transmitter." Kindly verify and provide clarification regarding this matter. Reason: 1. The Technical schedule of TK Halli at SL.No. 1.1.8 mentions "Pressure Transmitter" and The tender mentions the specifications of Pressure transmitter at page no.2.18.6, page no, 2-55. 2. There are no specifications for pressure switch in tender document. 3.The pressure switch is used for control whereas pressure transmitter / sensor is used for measurement	The pressure switch to be replaced with "Pressure Transmitter on transmission line (1500 mm)" for both Harohalli and Tataguni Technical Schedules
9	HarohalliPage no. TS II-10, Sl.No.1.2.6TataguniPage no. TS III-9, Sl.No.1.2.6	Technical ScheduleSurge vessel Control panel with required accessories, pressure switch, control and automation equipment inclusive of redundant RTU with panel and HMI and interface with the IOT Station	In the Technical Schedule of TK Halli on page no. TS-I-9, under Sr. no. 1.3.1, the mentioned item is "IoT Gateway." However, we believe there might be a typographical error in the technical schedules of both Harohalli and Tataguni, where it is stated as "redundant RTU" instead of "IoT Gateway." Kindly verify and provide clarification regarding this matter.	Tender condition prevails

Chief Engineer
(Kaveri O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
10	TK Halli Page no. TS III-13, Sl. No.1.4.2 Harohalli Page no. TS II-10, Sl.No.1.3.6 Tataguni Page no. TS III-11, Sl.No.1.3.2	Technical Schedule RTU software & 16" HMI programming software with all accessories complete	As the specification calls for both Scada and or IIOTbased IPMS solution, please amend the item as" RTU/ IPMS software & 16" HMI programming software with all accessories complete	Tender condition prevails
11	HarohalliPage no. TS II-11, sl.no.1.3.3TataguniPage no. TS III-11, sl.no.1.3.3	Technical schedulePortable Industrial Programming Unit (Laptop-16" screen) loaded with licensed latest Windows operating system, IPMS programming software & SCADA software, MS Office, Antivirus software, with all accessories required to connect to RTUs and to monitor the plant if required, etc)	In the Technical Schedule of TK Halli on page no. TS-I-13, under Sr. no. 1.4.3, the mentioned item is "IPMS Programming Software." However, we believe there might be a typographical error in the technical schedules of both Harohalli and Tataguni, where it is stated as "IPMS Programming software & SCADA Software" IPMS Programming software."Kindly verify and provide clarification regarding this matter.Also kindly request you to please amend as RTUs/IoT Gateway	As per tender conditions
12	Harohalli Page no.TS II, sl.no.1.1.30	Technical schedule Cable trays	Kindly request you to please amend as "cable trays or conduits" as per site requirements.	As per tender conditions

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
13	Instruction to Tenderer - Qualification of the Tenderer: a. Clause number 3.0 b. Sub-Clause number 3.2 d) Page number 8	As stated in the bid document: The bidder must possess technology that is currently utilized by any Government Organization / PSU / Corporation or is a patented technology duly approved in startup India	We propose the following change/amendment/addendum to clarify: "The bidder must confirm if the IIoT-based technology offered is in use by any Government Organization/PSU/Corporation or if it is a patented technology duly approved in startup India." **Reason:** The current tender work necessitates the implementation of an IoT-based IPMS system, and because this technology is cutting-edge, the bidder may not offer it as part of this IoT-based technology.	As per tender conditions
14	Contract Data : Payment Terms, page number 45	the payment terms are currently specified as follows: 50% upon delivery of material/equipment 30% after installation 20% after commissioning	We propose the following change/amendment/addendum to the clause, which is also being used in various contracts within BWSSB: a. 85% upon delivery of material/equipment. b. 10% after installation. c. 5% after commissioning **Reason:** The payment terms specified in the tender are needs reconsideration. The suggested payment terms are in line with the established practices in various other BWSSB contracts	Payment terms are modified as following a. 70% upon delivery of material/equipment. b. 20% after installation. c. 10% after commissioning

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
15	Part 1_General Instrumentation Control and Automation of IPMS	PLC based SCADA / Technical details of SCADA/ Proposed SCADA screens/ Minimum Scope of work/ PLC Programming	Both the documents "General Requirements" and "Technical Schedule" contains and scope to implement PLC based SCADA or IoT interchangeably. Please suggest whether bidders can consider IIoT-based IPMS syatem inclusing software instead of PLC based SCADA whereever it is stated. **Reason:**Performance Management System (IPMS), which consists of both SCADA/PLC-based and IoT-based components. It is important to note that IoT-based systems represent a more modern and advanced technology compared to traditional SCADA systems. Below are relevant references from the document without technical details: a. On Page no. 2-10, in clause no. 2.3.1, the Minimum scope of work for CWPS is specified to be IoT-based. b. On Page no. 2-11, in the Note section, it is mentioned that the IPMS is IoT-based. c. On Page no. 2-39, in clause no. 2.13, the FUNCTIONAL REQUIREMENTS section details the requirements for the Integrated Pump Performance Management System.	As per tender conditions
16	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.2.3 (Pg No. 2-7)	Pump Monitoring	The documents "General Requirements" and "Technical Schedule" offer the flexibility to implement either PLC-based SCADA or IIoT interchangeably. Therefore, Please clarify whetehr bidders are	

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
17	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.2.9 (Pg No. 2-8)		encouraged to consider the option of an IIoT-based IPMS in place of PLC-based SCADA wherever specified. The tender allows for the adoption of the more advanced and versatile IIoT technology to meet the project requirements. **Reason:** The proposed tender work involves the implementation of an advanced and cutting-edge technology known as the IoT-based Integrated Performance Management System (IPMS). This system is designed to efficiently monitor and manage the performance of pumping stations while optimizing their overall operations. Additionally, the tender also allows for the use of SCADA/PLC-based systems, offering flexibility in technology choices. SCADA (Supervisory Control and Data Acquisition) and IoT (Internet of Things) systems are distinct in their methodologies and functionalities. SCADA systems have been widely used in various industries for monitoring and controlling industrial processes. On the other hand, IoT-based systems are more modern and up-to-date, harnessing the power of interconnected devices and data analytics for smarter and more efficient operations. By incorporating IoT technology, the proposed IPMS	Tender condition prevails
18	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.3.1 (Pg No. 2-11)	Minimum scope of work CWPS – sub-clause n) – SCADA Mimics		
19	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.4 (Pg No. 2-12)	Control system - Inclusive of Cloud Server based intelligent Platform, Local PLC, RTU – SCADA		
20	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.4 (Pg No. 2-12)	Control system - communication channels modules for the connection to the Programmable logical controllers`		
21	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.5 (Pg No. 2-13)	PLC s, Redundant SCADA server and auxiliaries, The control panels shall provide separate areas for the PLC		
22	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.5 (Pg No. 2-14)	The complete IOT based SCADA		

Chief Engineer
(Kaveri O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
23	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.6 (Pg No. 2-14)	Power Supply, The status & online parameters of UPS shall be monitored from the SCADA system	offers several advantages over traditional SCADA-based systems. IoT-based systems enable real-time data collection, analysis, and decision-making, enhancing the overall efficiency and responsiveness of the pumping stations. The IoT architecture allows for seamless integration of various sensors, devices, and data sources, providing a comprehensive view of the pumping station's performance. The specific clauses in the tender documents that support the use of IoT-based IPMS: a. Page no. 2-10, clause no. 2.3.1, Minimum scope of work CWPS – This clause explicitly states that the minimum scope of work for the proposed project is based on IoT technology. This indicates the strong preference for an IoT-based solution. b. Page no. 2-11, Note – The note on this page reiterates that the IPMS to be implemented should be IoT-based. This further emphasizes the importance of IoT technology in the project. c. Page no. 2-39, Clause no. 2.13, FUNCTIONAL REQUIREMENTS - Integrated Pump Performance Management System - This clause outlines the functional requirements of the IPMS. While technical details are omitted in this explanation, it is essential to note that the system's performance is expected to align with IoT-based functionality.	
24	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.8, Sub clause 2 (Pg No. 2-15)	Alarm Annunciation - …. and at the central SCADA…..		
25	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.8, Sub clause 3 (Pg No. 2-15)	Communication Monitoring		
26	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.10 (Pg No. 2-19)	Field Instrumentation and Control - Each field instrument shall be operable in local mode and have display functions in SCADA		
27	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.10 (Pg No. 2-20)	The devices shall generally interface with the SCADA		
28	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.11.3 (Pg No. 2-22)	Signals for the items above shall form inputs to the PLC and SCADA and be utilized within Operator displays		

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
29	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. No. 8, Sub cl. 1 & b (Pg No. 2-37)	Proposed System Architecture, SCADA screens, set point schedules, shall be an integral part of the FDS submissions	The inclusion of these clauses reflects the project's intention to adopt the latest technological advancements in the field of pumping station management. By embracing IoT-based IPMS, the project aims to capitalize on the benefits of real-time data insights, remote monitoring, predictive maintenance, and enhanced system performance. The integration of IoT technology is expected to lead to more efficient, reliable, and cost-effective operations, making it a wise and forward-thinking choice for the proposed tender work.	
30	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. No. 8, Sub cl. 4 & p (Pg No. 2-38)	Integration between IOT based SCADA system at each pumping station		
31	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.20 (Pg No. 2-66)	IOT Based Supervisory Control and Data Acquisition (SCADA)		
32	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.20, Sub clause 2.20.2 (Pg No. 2-66)	HMI : IOT Based Supervisory Control and Data Acquisition (SCADA		
33	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.20, Sub clause 2.20.4 (Pg No. 2-67)	CWPS PLC shall be provided as a Hot-Standby configuration		

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
34	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.20, (Pg No. 2-67)	Main PLC system shall comprise of necessary hot standby PLC processors		
35	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.20, Sub clause 2.20.5 (Pg No. 2-68)			
36	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.20, Sub clause 2.20.5 (Pg No. 2-68)	Pertains to PLC programming		
37	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.20, Sub clause 2.20.7.1 (Pg No. 2-69 to 2-77)	Pertains to PLC programming and SCADA		
38	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.26 to 31 (Pg No. 2-86)	Supervisory Control and Data Acquisition System (SCADA).		

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
39	Part 2-Particular Instrumentation Control and Automation Requirement of IPMS - Cl. 2.35 (Pg No. 2-120)	SCADA control room design		
40	Instruction to Tenderer: a. Clause number 3.3 b. Sub-Clause a)		The Tenderer should have access to 50% of instrumentation testing equipment through ownership and the remaining 50% can be obtained on a lease/hire basis. The relevant documents (commitment agreements, etc.) for the availability of this equipment should be provided. The proof of ownership/leasing/hiring of equipment must be furnished by the Tenderer. Since, the present tender is instrumentation work and the clause is more of related civil works	Tender condition prevails
41	Contract Data - Payment Terms		Kindly request you to change to a. 70% upon delivery of material/equipment. b. 20% after installation. c. 10% after commissioning	Payment terms are modified as following a. 70% upon delivery of material/equipment. b. 20% after installation. c. 10% after commissioning
42	Scope of Work	The work involves design, supply, erection / retrofitting of SCADA and IOT instrumentation for pumping stations	Please confirm the proposed tender is SCADA or IIoT based IPMS?	Bidder should quote meeting the specifications as stipulated in Part-2, Clause No. 2.13 - FUNCTIONAL REQUIRMENTS - Integrated Pump Performance Management System

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
43	General Instrumentation Control and Automation of IPMS:	The section contains SCADA, PLC/SCADA/RTU in many places.	Please confirm the proposed tender is SCADA or IIoT based IPMS ?	Bidder should quote meeting the specifications as stipulated in Part-2, Clause No. 2.13 - FUNCTIONAL REQUIRMENTS - Integrated Pump Performance Management System
44	Particular Instrumentation Control and Automation Requirement of IPMS:	The section contains many references of SCADA, PLC/SCADA and also mentions of IoT based IPMS technical specifications	Please confirm the proposed tender is SCADA or IIoT based IPMS ?	Bidder should quote meeting the specifications as stipulated in Part-2, Clause No. 2.13 - FUNCTIONAL REQUIRMENTS - Integrated Pump Performance Management System
45	Technical Schedule - TK Halli	Instrument control panel with Alarm Annunciator with all accessories complete	Please remove the requirement of " Instrument control panel with Alarm Annunciator with all accessories complete" considering the implementation of IoT based IPMS proposed in the scope of work.	As per tender conditions
46	Technical Schedule - TK Halli, Harohalli & Tataguni	HMI (Minimum 16") for PLC Systems / Digital Mimic Panel	The tender does not mentions the specifications for Digital Mimic Panel. Kindly provide the specifications.	As per tender conditions

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
47	Technical Schedule - TK Halli, Harohalli & Tataguni	Portable Industrial Programming Unit (Laptop-16" screen) loaded with licensed latest Windows operating system, IPMS programming software & SCADA software, MS Office, Antivirus software, with all accessories required to connect to RTUs and to monitor the plant if required, etc)	We kindly request you to please change to IPMS software.	As per tender conditions
48	General Instrumentation - Inspection Requirements	Each item of pumping stations and its installation shall be subject to testing at place of manufacturer	We kindly request you to relax these conditions and please consider for " Inspections of all items listed in Technical schedule will be conducted at Bidders lab / testing facility.	For the Supply of item / material from outsie India , it shall be inspected at Manufacturer's place if the quoted price is Rs.1 Crore and above. And below 1 Crore it shall be a virtual inspection for the said case.
49	Part-2, Deviations for more stringent conditions	Bid document mentions of the deviation wrt to standards	We kindly request you to relax these conditions and please consider for deviations in stringent standards and technical conditions of both Part-1 and Part-2, ensuring the implementation of SCADA/IoT based IPMS system in line with Minimum scope of work CWPS, functional requirement and non-functional requirements of IPMS.	As per tender conditions
50	Technical Schedule - TK Halli, Harohalli & Tataguni	Battery and UPS	As per our understanding the requirement of Battery and UPS considering the Technical schedules, 10KVA UPS with 80 AH batteries are very high and we respectfully request you to relax this less than 5KVA with required batteries.	As per tender conditions

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
51	Technical Schedule - TK Halli, Harohalli & Tataguni	Memory	The Bid document does not specifies the technical specifications, Kindly Clarify	Memory shall be minimum 2 TB.
52	Technical Schedule - TK Halli, Harohalli & Tataguni	Instrument control panel with Alarm Annunciator with all accessories complete	kindly request you to delete this item from Technical schedule and issue necessary amendment, as this is not required in the proposed tender work considering this work is IoT based IPMS	As per tender conditions
53	Instruction to Tenderer: Qualification of the tenderer	The bidder should have offered Technology which is in use in any of the Government Organization / PSU / Corporation or should be a patented Technology and duly approved in startup India	We respectfully request you to kindly relax this conditions with "bidder should have offered either SCADA/IoT based technology in any Government Organization / PSU / Corporation"	As per tender conditions
54	Pg. No. 41	2.13.1 :Integrated Pump Performance Management Solution (IPMS): e) Digital Twin	What is the complete scope in Predictive analytics	Important component failure of a Pump, motor and other should be identified with alarm in advance
55	Pg. No. 42	2.13.2 :Functional Compliance Sheet (To be filled by the bidder) : Point no. 4	Please specify the specific calculations required	Efficiency should be computed as a enthalpy change, and ratio of workout by work in as a function of differential temp and differential pressure
56	Pg. No. 44	2.13.2 :Functional Compliance Sheet (To be filled by the bidder) : Point no. 24	Which cloud platform BWSSB wishes to deploy the solution	As per tender conditions

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
57	Pg. No. 45	2.13.2 :Functional Compliance Sheet (To be filled by the bidder) : Point no. 27	Please specify the no. of years data storage required and the frequency/ quantum	As per tender conditions
58	PARTICULAR INSTRUMENTATION, CONTROL AND AUTOMATION REQUIREMENTS OF IOT BASED INTEGRATED PERFORMANCE MANAGEMENT SYSTEM -PART-2	Cl.2.3.1A Page no. 9 of 133 : Web based Fully Pump Performance Man agement Solution and Remote Data manag ement Cloud Software License	Is there any specific cloud service provider need to be considered	As per tender conditions
59		Cl.2.3.1A Page no. 9 of 133 : Touch Screen Pump Monitoring Station fo r Individual Pump with all accessories and fixtures	HMI will be considered	As per tender conditions
60		Cl.2.3.1A Page no. 9 of 133 : Mobile App. for Android and Apple	PWA mobile application will be provided	As per tender conditions
61		Cl.2.3.1.d Page no. 10 of 133 : Design, supply, install, test and commissio ning uninterrupted power supply /24VDC system to meet the power supply requirem ent of the entire IPMS;	230VAC incoming power supply will be provided by BWSSB	As per tender conditions
62		Cl.2.3.1.e Page no. 10 of 133 : Interface equipments to enable communication between 3 CWPS, J K. Doddi and subsequent User interfaces through GPRS Cloud application.		As per tender conditions

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
63		Cl.2.3.1.g Page no. 10 of 133 : Dismantling of existing Instrumentation Control and Automation related Panel, Devices, Cabling and other applicable items (to be dismantle/removed to facilitate installation of newly designed IPMS).	Any mechanical modification need to be carried out by BWSSB	As per tender conditions
64		Cl.2.3.1.o Page no. 11 of 133 : All necessary required cabling, programming, software and hardware required to make the data available to the above- mentioned contracts at all times, is part of the integral scope of work of the contractor	Necessary approval and timely co ordination will be pr ovided by BWSSB	As per tender conditions
65		Cl.2.4.v Page no. 12 of 133 : All drives essential for the continuous operation of the Pumping Stations shall be provided with a standby.	Drive specification required	As per tender conditions
66		Cl. 5 Page no. 15 of 133 : Transformer fault - mains incomer tripped - generator incomer tripped	These signals will be made available by BWSSB to SC ADA system	As per tender conditions
67		Cl. 5.3 Page no. 15 of 133 : Valve Actuator Drive Failure	applicable only if motorised valve	As per tender conditions
68		Cl. 2.11.2 Page no. 22 of 133 : All Sensors shall be of self-cleaning type	Applicable only for immersed sensor, not applicable for Flow, pressure and Valves	As per tender conditions

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
69		Cl. 2.11.11 Page no. 29 of 133 : Temperature Scanners	distance from temperature sensor to scanner should not be more than 100 mtrs, if more Junction boxes will be considered	As per tender conditions
70	General		Please provide the IO counts for the each pumping stat ion	As per tender conditions
71	General		Please provide the existing system architecture of the p umping station	As per tender conditions
72	General		Please provide the existing P&ID and PFD of the syste m	Bidder to visit site & prepare the same
73	Refer Tender document Vol I General Requirement SCADA Section 3.2 A Page no 9	Qualification of the Tenderer Liquid assets and /or availability of credit facilities of not less than Rs. 197 lakhs (Credit lines/ letter of credit/ certificates from nationalize banks for meeting the fund requirement etc	Kindly allow submission of declaration by the bidder to be able to invest 25 % of the estimate cost.	As per tender conditions
74	Refer Tender document Vol I General Requirement SCADA Section 13Page no 12	Earnest money deposit	Kindly allow EMD exemption to the company registered under MSME	As per tender conditions
75	Refer Tender document Vol I General Requirement SCADA Section 6: Contract Data Page no 45	Payment terms: 50% on delivery of material / equipment 30% after installation 20 % after commissioning	Kindly consider Payments terms as below 80% on delivery of material / equipment 15% after installation 5 % after commissioning	Payment terms are modified as following a. 70% upon delivery of material/equipment. b. 20% after installation. c. 10% after commissioning

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
76	Refer Tender document Vol I General Requirement SCADA Section 6: Contract Data, Page no 46	Advance Payments Mobilization advance is 5% of the Contract price on submission of un-conditional Bank Guarantee. (to be drawn before end of 30 days of contract period)	Kindly consider Mobilization advance at least 15 % instead 5 %	As per tender conditions
77	Refer Tender document Vol I General Requirement SCADA Section 6: Contract Data, Page no 46	The Maximum amount of Liquidated Damages / Delay Damage for the whole Works: 10% of the Contract Price	Kindly consider Maximum amount of Liquidated Damages / Delay Damage for the whole Works: 5 % of the Contract Price.	As per tender conditions
78	Refer Tender document Vol I General Requirement SCADA Page no 6 of 145	Period of completion - 12 months	Considering the magnitude of work please consider minimum 24 months for Project execution Additionally we request kindly include 02 years O & M period.	As per tender conditions
79		Price Escalation	The market prices of all commodities have become very dynamic in nature. Hence there is a lot of price variation. Hence we would request to include price escalation clause for complete duration of project. - Please confirm	As per tender conditions

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
80		Permission/ROW/Approval	We presume that all requisite ROW permissions are available and the dept. is in possession of the same. However, in case of any ROW being not available at the time of actual execution, then any delay, as the case may be, shall not be attributable to the successful Bidder. Accordingly, the bidder shall not be penalised for any such delay due to pending ROW issues. Please confirm.	As per tender conditions
81	Clause no. 3 .2 (c) - Experience of OEM (Original Equipment Manufacturer) and their integrator can be considered:		a. What kind of documentary evidence required to be provided by the OEM or their system integrator to validate their experience in compliance with the tender requirements?	The copy of work order with completion certificate meeting the qualification requirement and should submit unconditional tie-up agreement with OEM/Technology provider.
82			b. Please specify the exact nature and scope of works that the OEM or their system integrator has undertaken.	The copy of work order with completion certificate meeting the qualification requirement with similar works.
83			c. The projects of which OEM or their system integrator qualifications can used, please clarify what specific roles and responsibilities did they had undertaken to qualify? should they be prime contractor, or a JV partner / Subcontractor in the particular project.	The experience of the bidder will be considered as a prime contractor / a JV partner / sub-contractor who has executed the work which meets the qualification requirements and should submit unconditional tie-up agreement with OEM/Technology provider.

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
84			d. If the OEM or their system integrator were part of a larger consortium or JV partner or sub-Contractor in their cited projects, what should have been the percentage contribution to the overall project?	The bidder should have completed the work of SCADA/Instrumentation in the pumping set, which meets qualification requirements and should submit unconditional tie-up agreement with OEM/Technology provider.
85			e. Please clarify the nature of OEM or their system integrator involvement . Is it limited to supply of the items, or supply and erection, or supply erection and maintenance till defect liability period, and also their role in designing the system.	Tender condition prevails
86			f. How is the BWSSB ensuring that the evaluation of all bidders is on level playing field , especially when considering the experience of the OEM and their system integrator?	BWSSB will be considering the experience of bidder only is they have executed the job which meets qualification requirements as explained above and should submit unconditional tie-up agreement with OEM/Technology provider.
87		The first condition at Clause no. 2.2 mentions that "Tenders from joint ventures are not allowed" However, the second condition then refers to the "Tenderer or his Joint Venture partner." This is seems to be contradictory.	a. The stance on joint ventures?	As explained above, the experience of the bidder will be considered only if bidder as a lead JV partner has executed a contract meeting the qualification requirement.

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
88			b. If joint ventures are not allowed, than why does the second condition refer to a Joint Venture partner's experience? Or	As explained above, the experience of the bidder will be considered only if bidder as a lead JV partner has executed a contract meeting the qualification requirement.
89			c. Does it mean that the bidder if he has executed any project as a JV partner irrespective or being prime bidder or minor bidder, he will qualified if the project is executed in a Joint venture where the bidder is a JV Partner; If so please clarify the following:	As explained above, the experience of the bidder will be considered only if bidder as a lead JV partner has executed a contract meeting the qualification requirement.
90			d. Please specify the exact nature and scope of works that the bidder has under taken in the Joint venture?	As explained above, the experience of the bidder will be considered only if bidder as a lead JV partner has executed a contract meeting the qualification requirement.
91			e. What kind of documentary evidence required to be provided of works that the bidder has under taken in the Joint venture to validate their experience in compliance with the tender requirements?	The copy of work order with completion certificate meeting the quaification requirement and should submit unconditional tie-up agreement with OEM/Technology provider.
92			f. The projects of which qualifications can used y the joint venture partner, please clarify what specific roles and responsibilities did they had undertaken to qualify? should they be prime contractor, or a JV partner/Subcontractor in the particular project.	As explained above, the experience of the bidder will be considered only if bidder as a lead JV partner has executed a contract meeting the qualification requirement.

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
93			g. If the joint venture partner were part of a larger consortium or JV partner or sub-Contractor in their cited projects, what should have been the percentage contribution to the overall project?	The scope of the work executed in the consortium / as a JV partner / sub-contractor should meet the qualification requirement.
94			h. Please clarify the nature of the joint venture partner involvement. Is it limited to supply of the items, or supply and erection, or supply erection and maintenance till defect liability period, and also their role in designing the system.	Tender condition prevails
95			i. How is the BWSSB ensuring that the evaluation of all bidders is on level playing field, especially when considering the experience of the JV partner?	BWSSB will be considering the experience of bidder only is they have executed the job which meets qualification requirements as explained above and should submit unconditional tie-up agreement with OEM/Technology provider.

Chief Engineer
(Kaveri O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
96		We would like to seek clarification on the criteria set for the value of executed works, as per clause 3.2 b), specifically for SCADA or IOT instrumentation in pumping stations.	a. While the turnover from previous years is adjusted based on a defined factor to account for time-value, the threshold for the value of executed works remains static at Rs.236 lakhs over the past five years. For a more consistent evaluation. We propose or seek clarification if there is a consideration to apply a similar scaling factor to the value of executed works, as has been done for the turnover? For instance, a project completed in the financial year 2018-2019 might be evaluated at its value multiplied by a factor, much like the turnover for that year is multiplied by 1.46. This would ensure that projects undertaken in previous years are given their fair value when assessing qualifications, especially given inflation and other economic factors that could impact project values over the years.	Tender condition prevails
97		"The bidder should have offered Technology which is in use in any of the Government Organization/PSU/Corporation or should be a patented Technology and duly approved in startup India".	Does this mean that the bidder should offer Technology which is in use in any of the Government Organization/PSU/Corporation or should be a patented Technology and duly approved in startup India"	Tender condition prevails

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
98	3.0 Qualification of the Tenderer:	(b) The Tenderer as a prime contractor should have satisfactorily completed at least one SCADA or IOT instrumentation in pumping station having value not less than Rs.236 lakhs in last 5 years i.e. 2018-2019 to 2022- 2023. (c) The Tenderer or his Joint Venture partner should have carried out satisfactorily the supply, erection / retrofitting of SCADA or IOT instrumentation works in minimum 1 no. of water pumping stations during last 5 years.	(b) We, request department to also consider experience of contractor should have satisfactorily completed at least one SCADA or IOT instrumentation in pumping station or water treatment plant or water supply scheme having value not less than Rs.236 lakhs in last 5 years i.e. 2018-2019 to 2022-2023. (c) The Tenderer or his Joint Venture partner should have carried out satisfactorily the supply, erection / retrofitting of SCADA or IOT instrumentation works in minimum 1 no. of water pumping stations/water treatment plant / water supply scheme during last 5 years.	Tender condition prevails
99	Volume -1 General Requirements_SCADA 300 ML SECTION 6: CONTRACT DATA Page No.45	Payment terms: 50% on delivery of material / equipment 30% after installation 20% after commissioning	Request you to accept below payment terms. a) 70% on delivery of material /equipment. b) 20% after installation. c) 10% after commissioning	Payment terms are modified as following a. 70% upon delivery of material/equipment. b. 20% after installation. c. 10% after commissioning
100	Volume -1 General Requirements_SCADA 300 ML SECTION 6: CONTRACT DATA, [44.2.2] Page No.45	Defect Liability Period is 365 days after successful commission of the works	In case of commissioning of the works gets delayed due to reasons not attributed to bidder, we request you cap the defect liability period to 12 months from commission of works or 18 months from the date of supply whichever is earlier. Kindly accept.	Tender condition Prevails

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
101	Volume -1 General Requirements_SCADA 300 MLSECTION 6: CONTRACT DATA,[45] Page No.45	The Maximum amount of Liquidated Damages / Delay Damage for the whole Works: 10% of the Contract Price	We request you to limit the LD to maximum 5% of the contract price.	Tender condition Prevails
102	Volume -1 General Requirements_SCADA 300 ML SEQUENCE OF EVENTS, Page 3	LAST DATE AND TIME FOR RECEIPT OF TENDERS:14/08/2023 up to 15:00 Hours	Considering the number of Buyout items involved and complexity of the specifications like IIOT based sensors, Edge devices, IPMS,PLC,RTU,IT hardware, OFC communication routers etc we need to co-ordinate with many vendors to get the technical and commercial offers. In view of this we kindly request you to provide the bid extension 30 days from the date of receipt of Pre-bid responses/ last corrigendum/Addendum for this tender. Kindly accept.	Tender condition Prevails
103	Part 1_General Instrumentation Control and Automation Requirement of IPMS Cl 1.10.17: Enclosure/Panel Details, Page25.	Enclosures for use outside buildings or in places where splashing may occur shall have a minimum rating of protection to IP 65 and have tops which project sufficiently to protect the vertical faces of the enclosure and any component mounted thereon from splashing	We understand that all enclosures are installed inside pumphouse building or control room, hence IP65 protection class is not applicable. Kindly confirm.	Tender condition Prevails

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
104	Part 1_General Instrumentation Control and Automation Requirement of IPMS a)Minimum Scope of Work (Control & Automation) ,Page58.	Complete instrumentation, control and automation system at J.K Doddi surge vessel system and to transmit the complete operational data to the pumping station and CP-04 control system via redundant GPRS communication equipment and RTU. Integration with redundant FOC communication network to be installed under another contract (CP-24) to transmit complete operational data to CP-24 &MIS-2 .	Kindly provide clarity and battery limit between this tender scope and other packages (CP-24,CP-02, Stage IV Pahse-II) in a tabular format for better understanding by bidders and estimate accordingly.	Tender condition Prevails
105	Part 2_Particular Instrumentation. Page 8	2.2.8 : Dismantling of existing ICA items including its relevant Cables Under this Tender scope, Existing Instrumentation Control and Automation related Panel, Devices, Cabling and other applicable items to be dismantle/removed to facilitate installation of newly designed SCADA system. This activity shall be a pre-requisite to initiate any procurement activity under this Tender's scope work.	Please provide the Quantity of the items to be dismantled under this tender scope, i.e Number of existing panels to be dismantled and their location, total cable quantity and size of the cable, devices/instruments to be dismantled. Also please clarify whether these dismantled items to be transported to any particular location or to be retained at the respective pumphouse locations. These details will help bidders for proper estimation.	Bidder has to visit the site to ascertain the quantity
106	2.11.1 Minimum Design Consideration, Page 20	The system integrator shall provide technical services/support for 10 years without extra cost, excluding spares.	We understand that 10 years support will be based on bidder's engineer visit yearly once to check the system and recommend spares parts /replacement components as required to client, based on which client (BWSSB) will issue the separate PO to avail the required spare parts and services. Kindly confirm.	During period of providing technical service upto 10 years, bidder's engineers visit every quarter to check the systems and recommend the remedial actions

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
107	2.13 FUNCTIONAL REQUIRMENTS - IPMS System, Page 39	2.13 FUNCTIONAL REQUIRMENTS - Integrated Pump Performance Management System	Request you to provide below information regarding IPMS. 1. List of each equipment/asset to be covered in 3D modelling 2. Parameters which will be available for displaying on these models 3. Existing photo/3D image of these assets/objects available with customer for 3D model creation 4. Size of these equipment & capacity 5. Sensor proposed & tags related & communication protocol	3D modeling - Pump, Motor and its associated major parts Parameters - a. Soft simulation of the Pump and b. pop of particular part of pump or motor should be displayed in the 3D exploded view of the Pump or Motor while the software is performing predictive maintenance analytics module in real time c. bidder should develop the 3D model of the PUMP and Motor based on the name plates. Size of equipment - 1500KW motor. d. Sensor Brand and protocol International reputed brand sensor with certification which provides 4-20mA output or in volts and encrypted end to end communication protocol.
108	2.18 : Instrumentation Details - Sensors.Page 53 to 64	2.18.1 Supply, Installation, Testing, and Commissioning of IIOT Temperature Sensor for Motor windings with all accessories	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
109	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.2 Supply, Installation, Testing, and Commissioning of IIOT Temperature sensor for Motor (Driving end and non-Driving end) – 2 Nos. for each pump with all accessories and fixtures (contact or contactless)	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.
110	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.3 Supply, Installation, Testing, and Commissioning of IIOT Temperature sensor for Pump (Driving end and non-Driving end) – 2 Nos. for each pump with all accessories and fixtures (contact or contactless)	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.
111	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.4 Supply, Installation, Testing, and Commissioning of IIOT Water Temperature Transducer for Suction Side and Delivery side with all accessories and fixtures	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.
112	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.5 Supply, Installation, Testing, and Commissioning of IIOT Pressure Transmitter for Suction Side and Delivery side of pump with all accessories and fixture	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.

Chief Engineer
(Kaveri O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
113	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.6 Supply, Installation, Testing, and Commissioning of IIOT Pressure Transmitter/ pressure sensor for Common discharge transmission line, surge vessel with all accessories and fixture	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.
114	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.7 Supply, Installation, Testing, and Commissioning of IIOT Accelero Sensor / Accelerometer / vibration sensor for Motor with all accessories and fixtures	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.
115	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.8 Supply, Installation, Testing, and Commissioning of Ultrasonic Flow Meters for Common Header with all accessories and fixtures	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.
116	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.9 Supply, Installation, Testing, and Commissioning of IIOT Noise Sensor with all accessories and fixtures.	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
117	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.10 Supply, Installation, Testing, and Commissioning of IIOT RPM Sensor with Transmitter with all accessories and fixtures.	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.
118	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.11 Supply, Installation, Testing, and Commissioning of IIOT Level Transmitter with Indicator with Level Switch with programmable latch. For Water Tank Level (5m– 4 Levels) with all accessories and fixtures	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.
119	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.12 Supply, Installation, Testing, and Commissioning of IIOT Web camera with all accessories and fixtures	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.
120	2.18 : Instrumentation Details - Sensors.Page 53 to 64	2.18.13 Supply, Installation, Testing, and Commissioning of Field Instruments Cabinets and SMPS + MCB with all accessories and fixtures.	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.

Chief Engineer
(Kaveri O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
121	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.14 Supply, Installation, Testing, and Commissioning of IIOT Moisture Sensor to be placed on bearing cover (water content in oil/grease) with all accessories and fixtures.	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.
122	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.15 Supply, Installation, Testing, and Commissioning of Thermal Image Sensor / camera with all accessories and fixtures.	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.
123	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.16 Supply, Installation, Testing, and Commissioning of Touch Screen Pump Monitoring Station for individual pump with all accessories and fixtures	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.
124	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.17 Supply, Installation, Testing, and Commissioning of Edge Hardware with all accessories and fixtures	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
125	2.18 : Instrumentation Details - Sensors. Page 53 to 64	2.18.18 Supply, Installation, Testing, and Commissioning of IoT Station for each Pumping Station – Common Touch Screen data console with web based fully Pump Performance Management Solution and Remote Data management Cloud Software License with all accessories and fixtures	Please provide at least 3 approved makes for this item to consider accordingly.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.
126	2.19 Secured communication,Page 62	C. Optical Fibre internet: Speed: Unlimited 200Mbps and above with 24x7 promised speed.	We understand that Optical fiber network between TK Halli to Central control room at Shimsha bhavan via Harohalli and Tataguni will be provided by other contractor as part of other package, 200Mbps speed Internat is also provided in the same package. Hence only connectorization of OFC network at TK Halli,Harohalli and Tataguni to respective communication equipments at that location needs to be considered as part of this tender scope by bidder. Kindly confirm.	As per tender conditions
127	2.19.2 Mobile internet. Page 63	2.19.2 Mobile internet (SIM1, SIM2: eSIM card Optional) – From distinct mobile service providers	We understand that SIM cards will be provided by BWSSB, also subscription charges for these SIM cards right from the installation/commissioning stage till handover and beyond will be taken care by BWSSB, kindly confirm.	Prices are included in the tender amount
128	2.19.5 :Supply... Mobile App , Page 64	2.19.5 :Supply, Installation, Testing, and Commissioning of Mobile App for Android and Apple. (Common for all the pumping Stations)	We presume that total number of Mobile APP users shall be 20 users, Please confirm.	As per tender conditions

Chief Engineer
(Kaveri-O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
129	2.20.5 Main Pumping Stations PLC: Hot standby PLC,Page 66	2.20.5 Main Pumping Stations PLC: Hot standby PLC Main PLC system shall comprise of necessary hot standby PLC processors, Simplex input/output (I/O) modules (duplex I/O modules shall be provided for only critical inputs/outputs, the same shall be decided during detail design engineering), redundant communication interface modules, redundant power supply modules and Human-Machine Interface (HMI) required performing the desired functions.	Kindly accept Yokogawa make STARDOM PLC for this tender, Please note that our STARDOM PLC comes with Single Rack structure housed with Redundant CPU, Redundant Power supplu modules and Redundant Communication modules, this is as per OEM design. Kindly accept.	Bidder can offer the various components of IPMS confirming to Technical specifications as per clause no.2.18 of Part-2 from the reputed manufacturer subject to approval of vendor prior to supply.
130	2.21.1 Typical Drive Control Philosophy ,Page73	2.21.1 Typical Drive Control Philosophy to be provided on a minimum shall be as follows:	We have noted the control philosophy and IO requirement indicated in the tender.However please provide the Quantity of each of the below mentioned devices to be considered for PLC interface.(1)UNIDIRECTIONAL HT DRIVE / LT BREAKER CONTROL DRIVE(2)UNIDIRECTIONAL LT DRIVE(3)BIDIRECTIONAL LT DRIVE For Integral starters (4)BIDIRECTIONAL LT DRIVE-For Non-Integral starters(5)SOLENOID DRIVE Single & Double coil(6)PNEUMATIC DRIVE	Bidder has to visit the site to ascertain the quantity

Chief Engineer
(Kaveri O&M)
BWSSB

Sl. No	Tender bid Document reference	As mentioned in Tender Bid Document	Bidder Queries	Replies to Queries
131	2.24 Approved Vendor / Manufacturer / Make List-Instrumentation Page 79	2.25 Approved Vendor/Manufacturer/Make List-Automation	Kindly Approve below makes for mentioned items. (1) PLC : Yokogawa make PLC, Model: STARDOM (2) SCADA: Yokogawa make SCADA, Model:FAST/TOOLS or CI Server. (3) REMOTE TERMINAL UNIT : Yokogawa Make, Model:FCN RTU (4) HMI: Renu Electronics (5) CONTROL ROOM CONSOLES& FURNITURE: YIL stanadard Metallic consoles	Tender condition Prevails

Chief Engineer (K-O&M)
BWSSB